0080270 6691260

FIG. 1

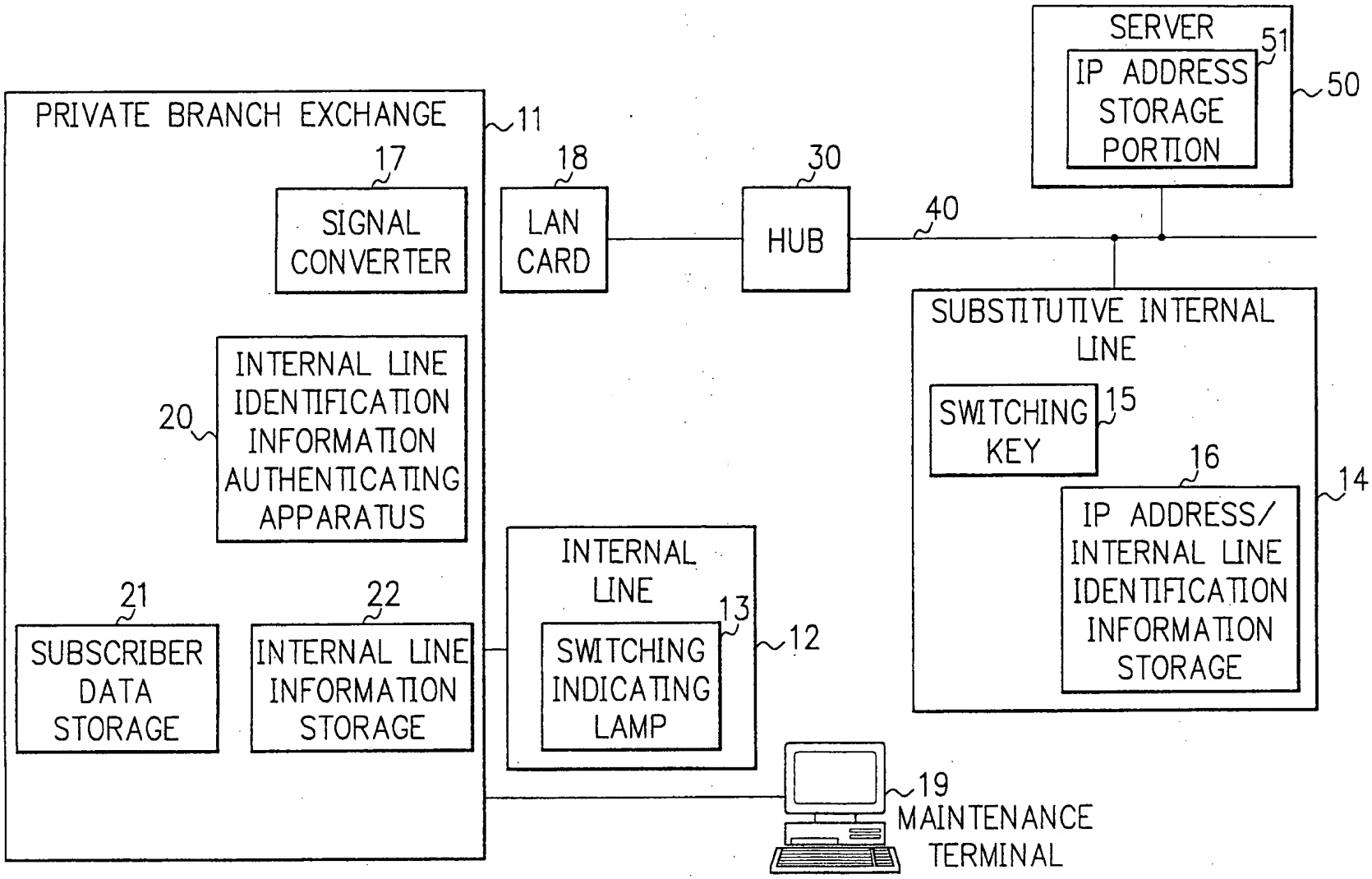

FIG. 2

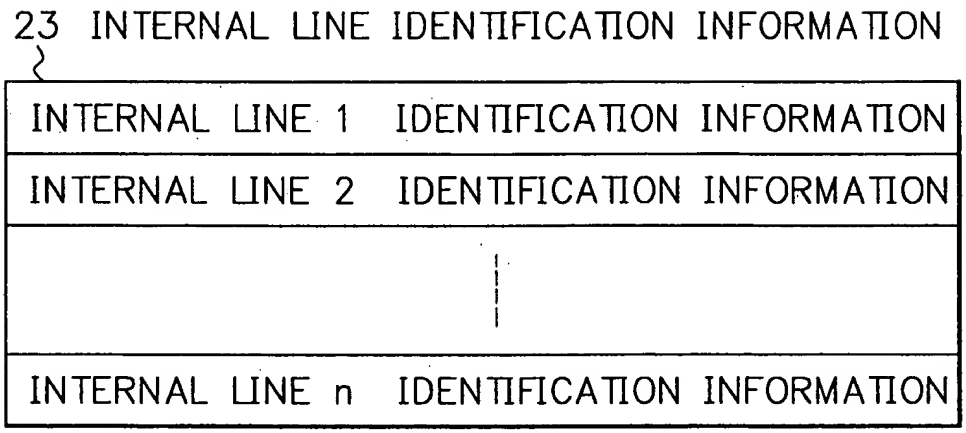

FIG. 3

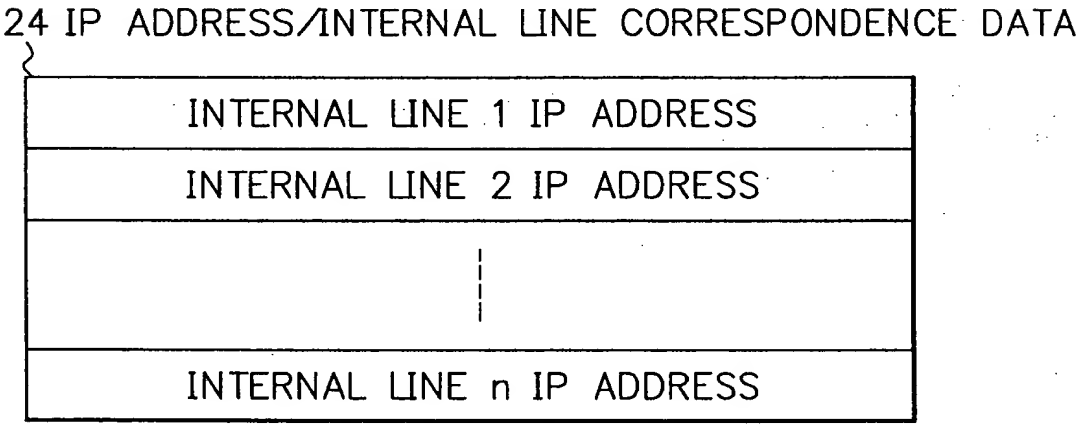

FIG. 4

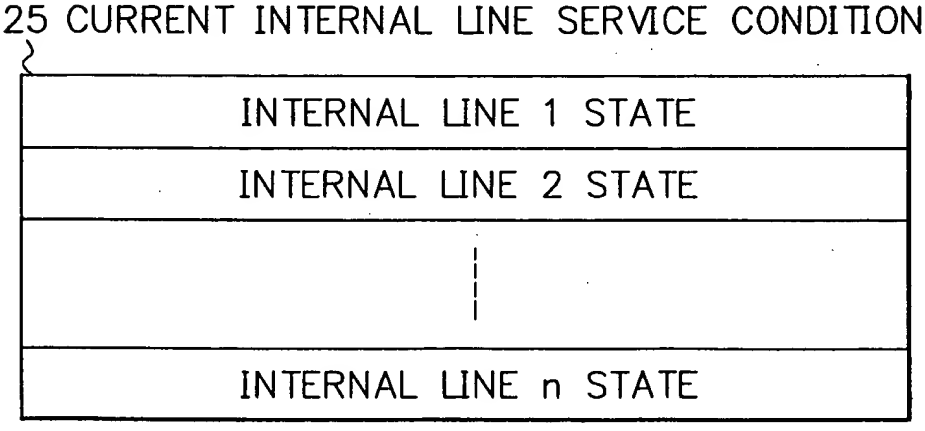

FIG. 5

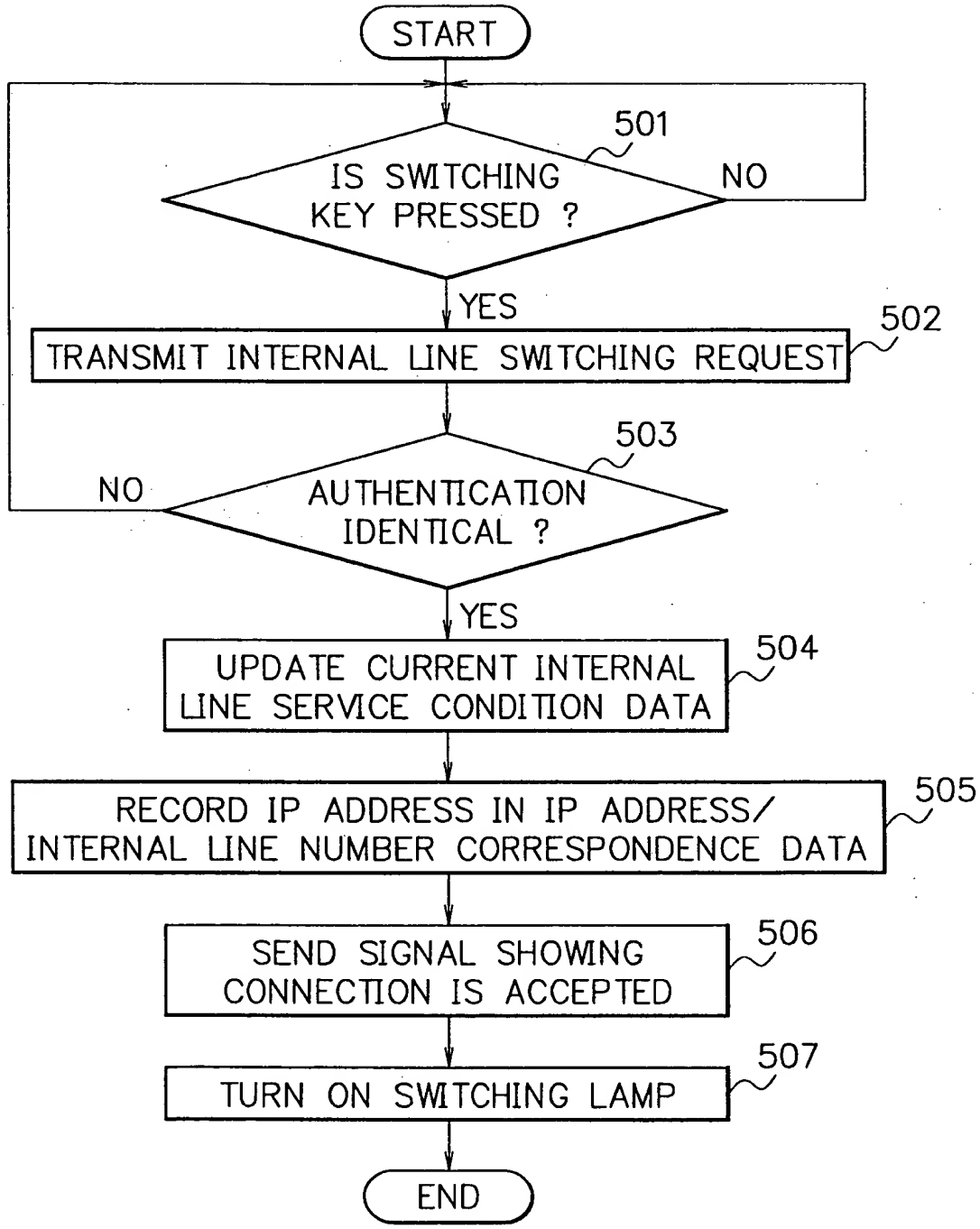
START
501
IS SWITCHING KEY PRESSED ?
NO
YES
502
TRANSMIT INTERNAL LINE SWITCHING REQUEST
503
NO
AUTHENTICATION IDENTICAL ?
YES
504
UPDATE CURRENT INTERNAL LINE SERVICE CONDITION DATA
505
RECORD IP ADDRESS IN IP ADDRESS/ INTERNAL LINE NUMBER CORRESPONDENCE DATA
506
SEND SIGNAL SHOWING CONNECTION IS ACCEPTED
507
TURN ON SWITCHING LAMP
END

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FIG. 6

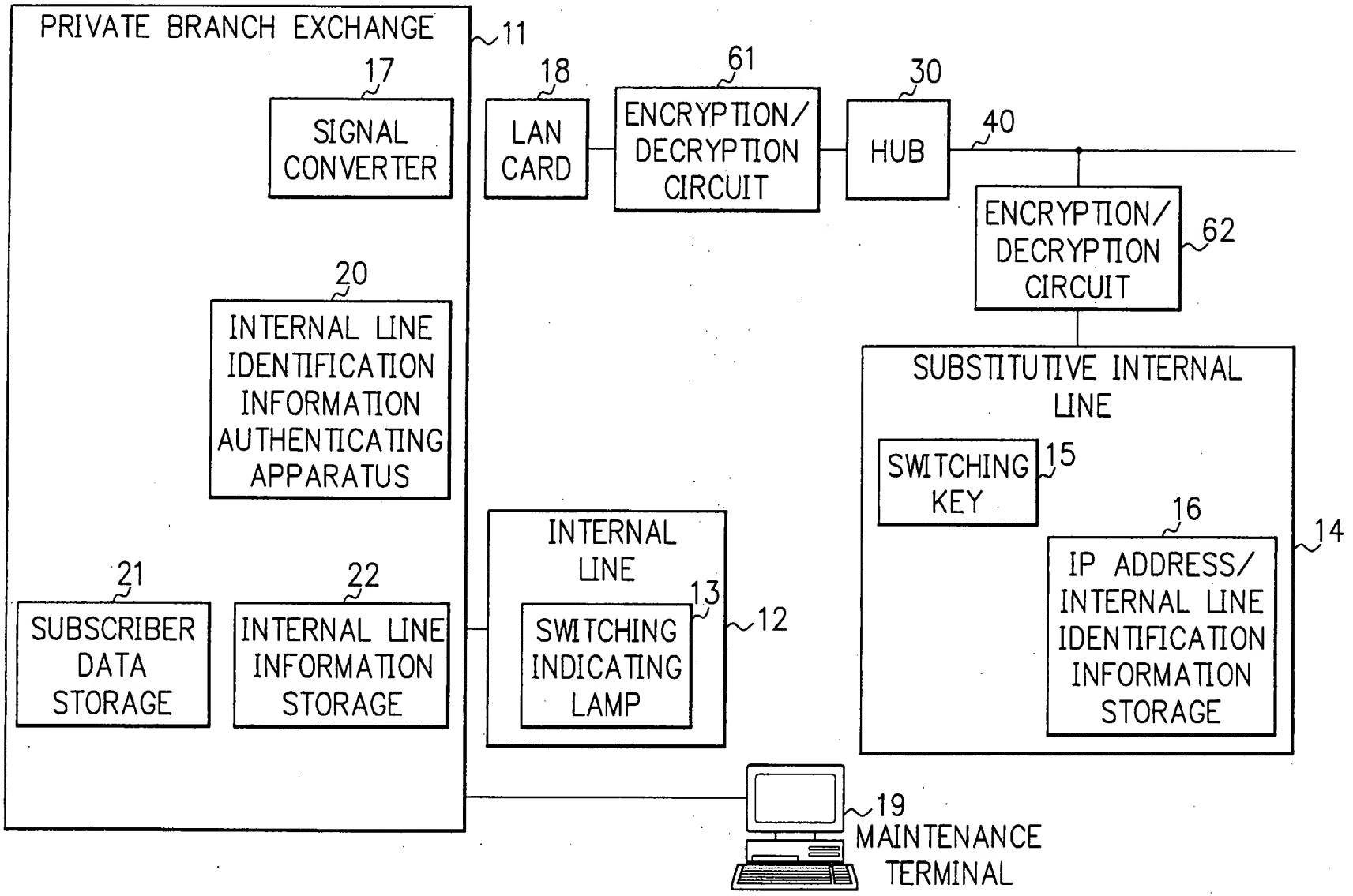
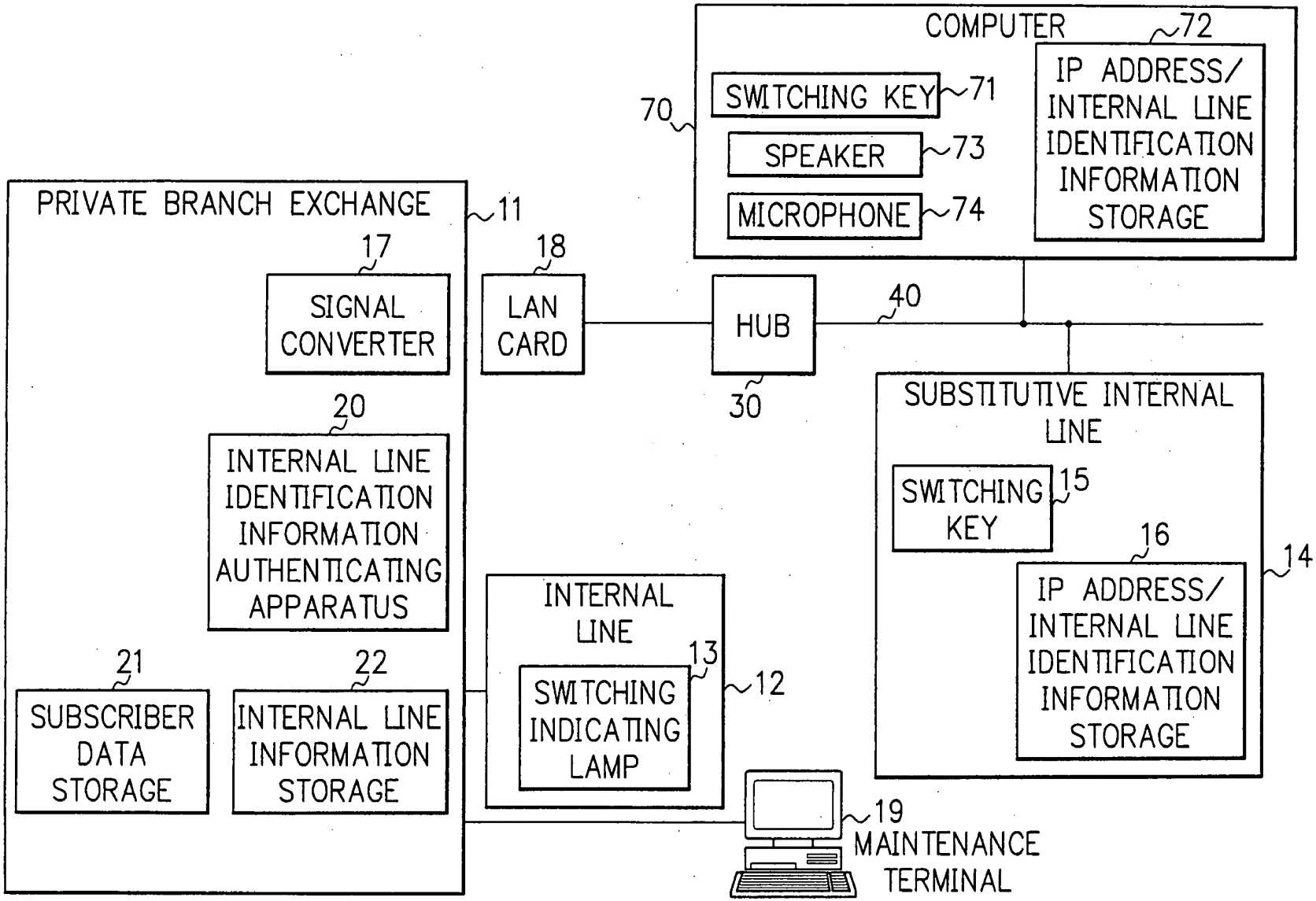


FIG. 7


COMPUTER
72
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
70
SWITCHING KEY
71
SPEAKER
73
MICROPHONE
74
PRIVATE BRANCH EXCHANGE
11
17
SIGNAL CONVERTER
18
LAN CARD
HUB
40
30
SUBSTITUTIVE INTERNAL LINE
SWITCHING KEY
15
16
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
14
20
INTERNAL LINE IDENTIFICATION INFORMATION AUTHENTICATING APPARATUS
INTERNAL LINE
13
SWITCHING INDICATING LAMP
12
21
SUBSCRIBER DATA STORAGE
22
INTERNAL LINE INFORMATION STORAGE
19
MAINTENANCE TERMINAL

F I G. 8

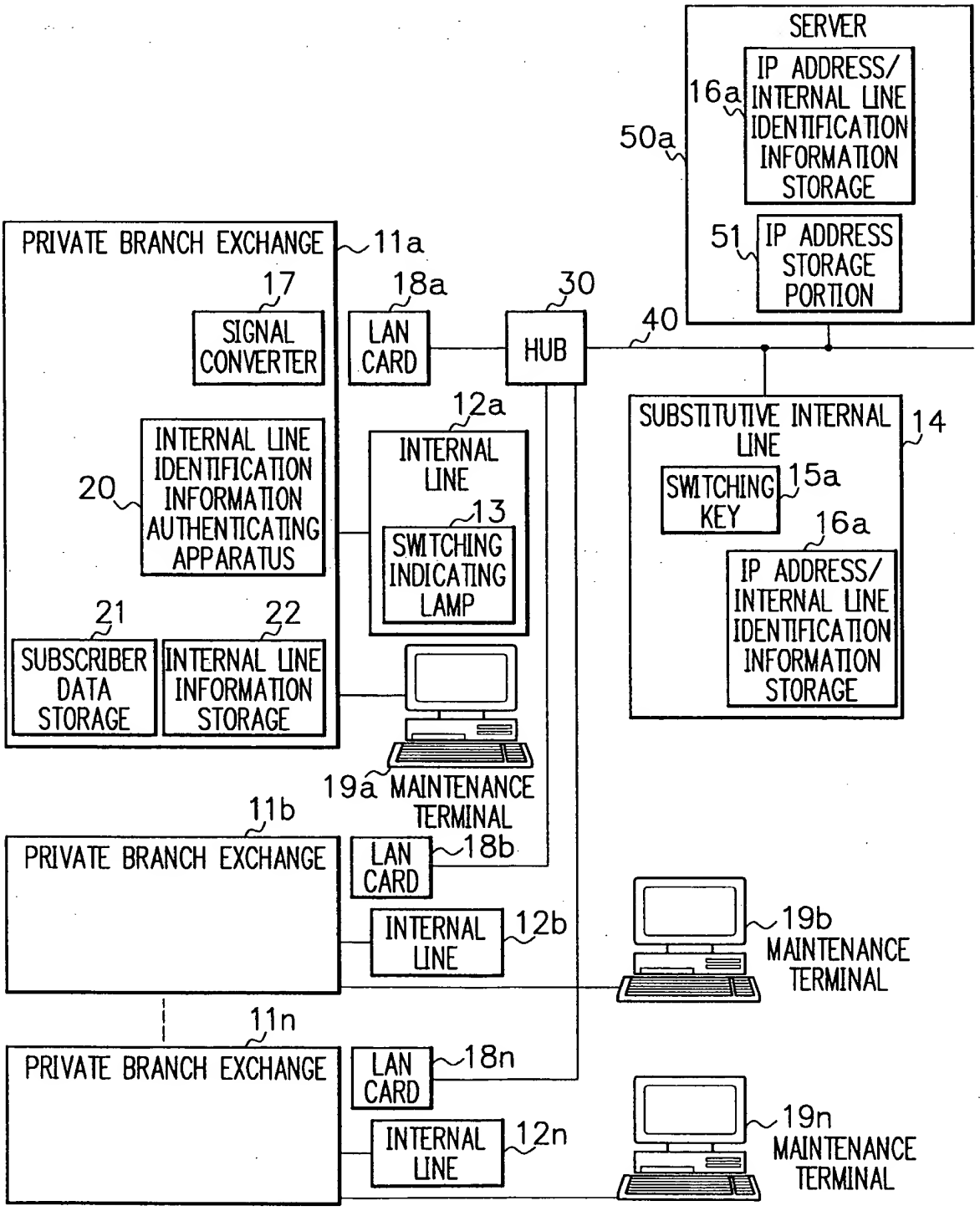
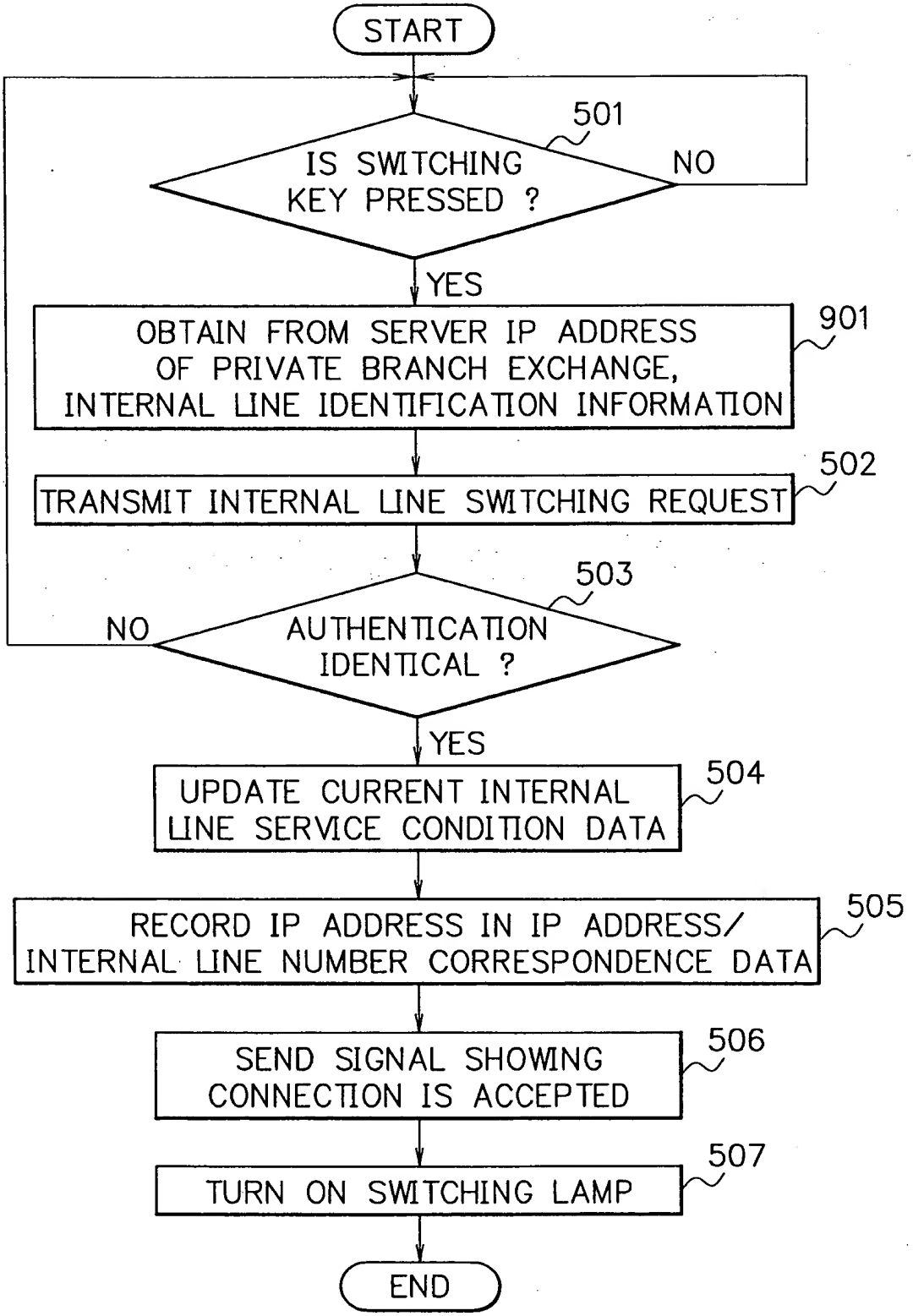
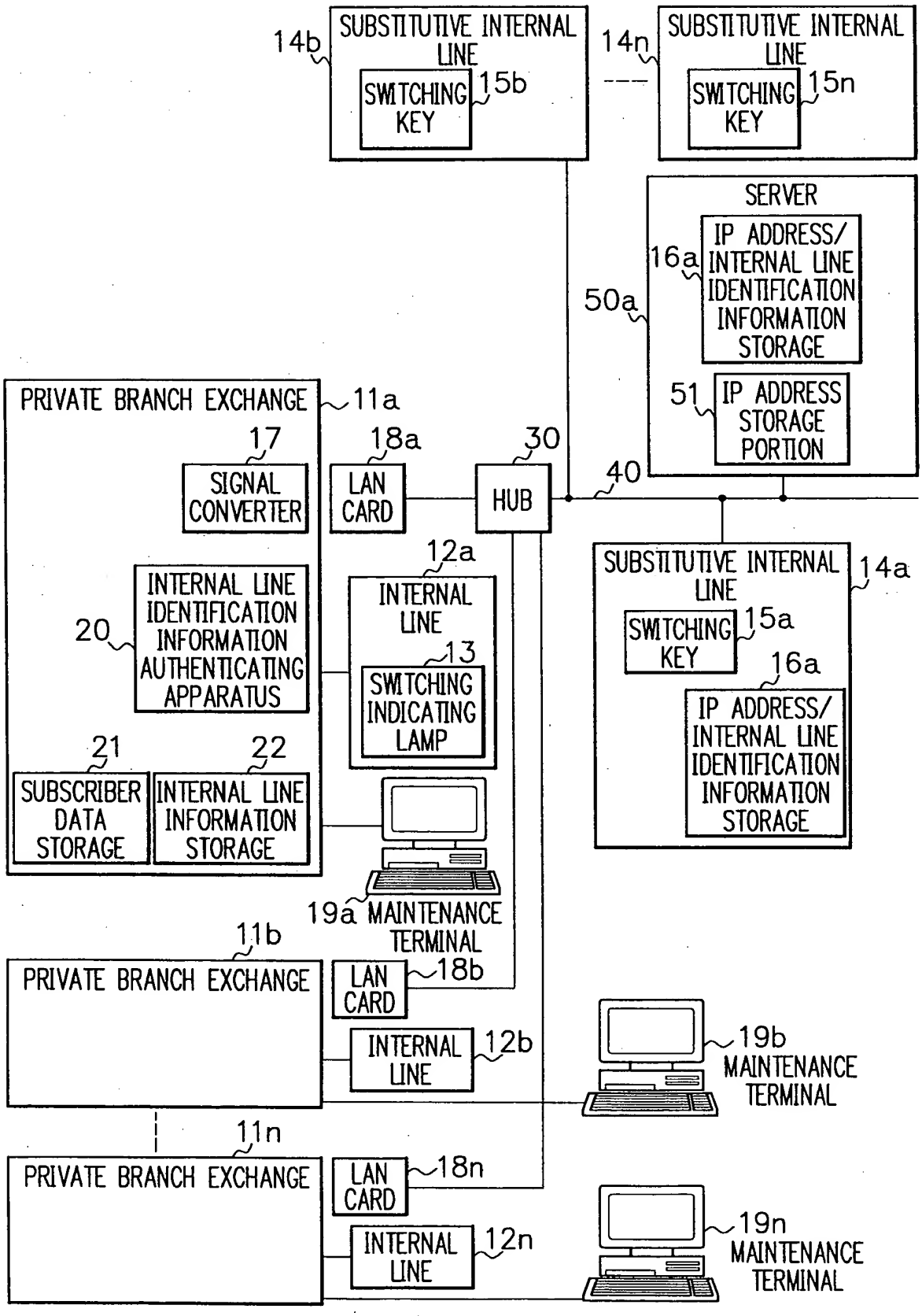

SERVER
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
16a
50a
51
IP ADDRESS STORAGE PORTION
PRIVATE BRANCH EXCHANGE
11a
17
SIGNAL CONVERTER
18a
LAN CARD
30
HUB
40
12a
INTERNAL LINE
13
SWITCHING INDICATING LAMP
INTERNAL LINE IDENTIFICATION INFORMATION AUTHENTICATING APPARATUS
20
21
SUBSCRIBER DATA STORAGE
22
INTERNAL LINE INFORMATION STORAGE
SUBSTITUTIVE INTERNAL LINE
14
SWITCHING KEY
15a
16a
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
19a MAINTENANCE TERMINAL
11b
PRIVATE BRANCH EXCHANGE
LAN CARD
18b
INTERNAL LINE
12b
19b MAINTENANCE TERMINAL
11n
PRIVATE BRANCH EXCHANGE
LAN CARD
18n
INTERNAL LINE
12n
19n MAINTENANCE TERMINAL

FIG. 9


START
501
IS SWITCHING KEY PRESSED ?
NO
YES
OBTAIN FROM SERVER IP ADDRESS OF PRIVATE BRANCH EXCHANGE, INTERNAL LINE IDENTIFICATION INFORMATION
901
TRANSMIT INTERNAL LINE SWITCHING REQUEST
502
503
AUTHENTICATION IDENTICAL ?
NO
YES
UPDATE CURRENT INTERNAL LINE SERVICE CONDITION DATA
504
RECORD IP ADDRESS IN IP ADDRESS/ INTERNAL LINE NUMBER CORRESPONDENCE DATA
505
SEND SIGNAL SHOWING CONNECTION IS ACCEPTED
506
TURN ON SWITCHING LAMP
507
END

F I G. 10


14b
SUBSTITUTIVE INTERNAL LINE
SWITCHING KEY
15b
14n
SUBSTITUTIVE INTERNAL LINE
SWITCHING KEY
15n
SERVER
16a
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
50a
51
IP ADDRESS STORAGE PORTION
PRIVATE BRANCH EXCHANGE
11a
17
SIGNAL CONVERTER
18a
LAN CARD
30
HUB
40
12a
INTERNAL LINE
13
SWITCHING INDICATING LAMP
20
INTERNAL LINE IDENTIFICATION INFORMATION AUTHENTICATING APPARATUS
21
SUBSCRIBER DATA STORAGE
22
INTERNAL LINE INFORMATION STORAGE
SUBSTITUTIVE INTERNAL LINE
14a
SWITCHING KEY
15a
16a
IP ADDRESS/ INTERNAL LINE IDENTIFICATION INFORMATION STORAGE
19a MAINTENANCE TERMINAL
11b
PRIVATE BRANCH EXCHANGE
LAN CARD
18b
INTERNAL LINE
12b
19b MAINTENANCE TERMINAL
11n
PRIVATE BRANCH EXCHANGE
LAN CARD
18n
INTERNAL LINE
12n
19n MAINTENANCE TERMINAL